CLAIMS

1) Steam generator (100) intended to humidify the air in an enclosed space or the air treated in an air conditioning system, particularly an air conditioning system aboard an aircraft, said steam generator (100) comprising at least one tank (110) intended to contain a water-based fluid (E), said or each tank (110) being connected to a heat exchanger (210) intended to convert the fluid (E) into steam, wherein the heat source connected to the heat exchanger (210) is a thermochemical reactor (230).

2) Steam generator (100) as claimed in claim 1, wherein the thermochemical reactor (230) consists of a first tank (240) intended to contain a reagent (A) that produces an exothermic reaction when it is combined with another reagent (B) contained in a second tank (250), the heat exchanger (210) comprising an envelope (220) in which the first tank is housed (240).

3) Steam generator (100) as claimed in claim 2, wherein the first tank (240) is coaxial to the envelope (220).

4) Steam generator (100) as claimed in claim 2 or 3, wherein the reagent (A) is a composite of calcium chloride and expanded natural graphite and reagent (B) is an ammonia gas.

5) Steam generator (100) as claimed in one of claims 2 to 4, wherein the envelope (220) is made of metal

6) Steam generator (100) as claimed in one of claims 2 to 5, wherein the envelope (220) comprises an opening (222) connected to a discharge outlet (224) that is intended to allow the diffusion of the steam.

7) Steam generator (100) as claimed in one of claims 2 to 5, wherein the envelope (220) comprises an opening (222) connected to a conduit (228) whose free end opens into a duct (G) of an air conditioning system.

8) Steam generator (100) as claimed in claim 7, wherein the free end of the conduit (228) is equipped with a diffuser (229).

9) Steam generator (100) as claimed in one of claims 2 to 8, wherein the envelope (220) is equipped with a pressure safety valve (226) intended to make it possible to keep the fluid (E)

under steam pressure while it is being vaporized in said envelope (220).

10) Steam generator (100) as claimed in one of the preceding claims, wherein the tank (110) is connected, through the intermediary of distribution piping (120) to the heat exchanger (210), the distribution piping being equipped with a valve (130) allowing one to adjust the flow rate of the fluid (E) toward the heat exchanger (210).

11) Steam generator (100) as claimed in claim 10, wherein the valves (130) and/or (234) are power-operated and are controlled by a control unit allowing the adjustment of the flow rate of the steam produced by the steam generator (100).